

WHAT IS CLAIMED IS:

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1. A pattern formation method comprising the steps of:  
forming a resist film of a chemically amplified resist  
material including a base polymer having a lactone group and  
5 having neither a hydroxyl group nor a carboxylic group as an  
adhesion group bonded to a polymer side chain, and an acid  
generator for generating an acid through irradiation with  
light;

irradiating said resist film with extreme UV of a  
10 wavelength of a 1 nm through 30 nm band for pattern exposure;  
and

forming a resist pattern from an unexposed portion of  
said resist film by developing said resist film after the  
pattern exposure.

15 2. The pattern formation method of Claim 1,

wherein said lactone group is a  $\gamma$ -butyrolactone group,  
a  $\delta$ -butyrolactone group, a mevalonic lactone group or an  
adamantyl lactone group.

3. The pattern formation method of Claim 1,

20 wherein said chemically amplified resist material has  
an aromatic compound that does not generate an acid through  
irradiation with said extreme UV.

4. The pattern formation method of Claim 3,

25 wherein said aromatic compound is styrene, aniline,  
methoxybenzene, methoxystyrene, methylstyrene, hydroxybenzene

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or hydroxystyrene.

5. The pattern formation method of Claim 1,  
wherein said extreme UV has a wavelength of a 13 nm  
band.

5 6. A pattern formation method comprising the steps of:  
forming a resist film of a chemically amplified resist  
material including a base polymer, an acid generator for  
generating an acid through irradiation with light and an  
aromatic compound that does not generate an acid through  
10 irradiation with light;

irradiating said resist film with extreme UV of a  
wavelength of a 1 nm through 30 nm band through a mask for  
pattern exposure; and

15 forming a resist pattern from an unexposed portion of  
said resist film by developing said resist film after the  
pattern exposure.

20 7. The pattern formation method of Claim 6,  
wherein said aromatic compound is styrene, aniline,  
methoxybenzene, methoxystyrene, methylstyrene, hydroxybenzene  
or hydroxystyrene.

8. The pattern formation method of Claim 6,  
wherein said base polymer includes no aromatic.

9. The pattern formation method of Claim 6,  
wherein said extreme UV has a wavelength of a 13 nm  
25 band.